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ABSTRACT

An application specific integrated circuit (ASIC) is disclosed. The ASIC includes a
standard cell. The standard cell includes a plurality of logic functions and at least one bus
coupled to at least a portion of the logic functions. The standard cell also includes a plurality
of internal signals from the plurality of logic functions and a field programmable gate array
(FPGA) function coupled to the at least one bus and at least a portion of the plurality of internal
signals. The FPGA function includes a debug client function that observes and manipulates
the at least one bus and the plurality of internal signals. A system and method in accordance
with the present invention utilizes a debug function within a standard cell design to create an
internal-to-the-ASIC debugging (software, hardware or both) function. The system and
method is provided by connection of internal buses and signals of interest to a debug client
function within the FPGA function. The debug client function observes and, if needed,
manipulates internal buses and signals and communicates with an external to the ASIC
debugging system.